

AMENDMENTS TO THE SPECIFICATION

Page 4, please amend the paragraph bridging pages 4 and 5 as follows:

In preferred embodiment of the present invention, the electrostatic levitation furnace includes a vacuum chamber, main electrodes opposed to each other within the vacuum chamber, an auxiliary electrode which displaces a sample levitated by a electrostatic field generated between the main electrodes to the predetermined position, and a laser irradiator which irradiates a laser beam on the sample displaced into the predetermined position to melt the sample, wherein a plurality of pairs of main electrodes forming electrostatic field generating interspaces are stacked vertically, and also auxiliary electrodes are arranged to correspond to each of electrostatic field generating interspaces, the laser irradiators are arranged above the uppermost main electrode and under the lowest main electrode respectively so as to be opposed to each other coaxially, the main electrode positioned midway between the uppermost one and the lowest one has a through-hole on optical path of laser beam which a sample can be passed through. For more preferred embodiment of the present invention, the electrostatic levitation furnace is provided with an image pickup device so as to extend to adjacent electrostatic field generating interspaces, which includes a CMOScomplementary metal oxide semiconductor (CMOS) camera or a CCDcharge coupled device (CCD) camera photographing a sample, a background light source irradiating a light on the sample, and a digital signal processor which executes image processing for edge enhancement in real time and outputs a position of the center of gravity of the sample maintained in a levitation state.